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CITY OF PORTLAND ENVIRONMENTAL SERVICES



Combined Sewer Overflow Program 1211 SW Fifth Ave, Suite 800, Portland, Oregon 97204-3713 (503) 823-7878, FAX (503) 823-5565

August 31, 1995

DEPARTMENT OF ENVIRONMENTAL QUALITY
RECEIVED

AUG 31 1995

Oregon Department of Environmental Quality
Water Quality Division
2020 SW Fourth Avenue, Suite 400

NORTHWEST REGION

Attention: Richard Santner

SUBJECT: Amended Stipulation and Final Order (ASFO) No. WQ-NWR-91-75
City of Portland Combined Sewer Overflow Program
Annual Progress Report

Enclosed please find two copies of the subject report submitted per the requirements of the subject ASFO. The report covers the period ending June 30, 1995.

This submittal is responsive to Section 12.a. (11) of the ASFO which states:

By no later than September 1 of each year that this Amended Order is in effect, the Respondent shall submit to the Department and to the Commission for review an annual progress report on efforts to eliminate untreated CSO discharges, subject to the storm return frequencies specified in Section 12.a of this Amended Order. These annual reports shall include at a minimum work completed in the previous fiscal year and the work scheduled to be completed in the current fiscal year.

If you have questions regarding this year's report, please contact me at 823-7169 or Lester Lee at 823-7186.

Sincerely yours,

John Lang, P.E.
CSO Program Director

Enclosure: Two Copies of Subject Report

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COMBINED SEWER OVERFLOW PROGRAM

ANNUAL PROGRESS REPORT TO DEQ
ASFO WQ-NWR-91-75/FISCAL YEAR 94-95
JUNE 30, 1995



ENVIRONMENTAL SERVICES
CITY OF PORTLAND

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I. Summary

The following summarizes the City's efforts to minimize and/or eliminate CSO discharges to the Columbia Slough and Willamette River during the **past** fiscal year:

- Planned, Staffed, and Commissioned a CSO Program Management Office to Manage the Activities of the CSO Program.
- 2 SFO Milestones Achieved for a Total of 33.
- Program Planning Related to the Acquisition of an NPDES Permit for the Columbia Slough Basin Discharges and the Siting of a Willamette River Wet Weather Treatment Facility.
- 13 CSO Control Projects in the Planning and/or Designed Stage.
- 13 CSO Control Projects in the Construction Stage.
- Construction Completed on 9 CSO Control Projects.
- Continued CSO Operation and Maintenance Activities to Reduce the Environmental Impact of Current CSO Discharges.
- Expanded Public Outreach Program.
- Developed and Implemented a Comprehensive Public Education/Public Involvement Strategy.

The following summarizes the planned City's efforts to minimize and/or eliminate CSO discharges to the Columbia Slough and Willamette River during the **current** fiscal year.

- Continued Program Level Planning to Secure Columbia Boulevard Wet Weather Treatment Facility (CBWWTP) NPDES Permit, Identify Site for the Willamette River Wet Weather Treatment Facility (WRWWTF), Optimize the Existing Collection and Treatment Systems, and Refine the Willamette River CSO Control Plan.
- Plan and/or Design Additional CSO Control Projects.
- Construct Additional CSO Control Projects.
- Continued Current CSO Operation and Maintenance Activities to Reduce the Environmental Impact of Current CSO Discharges.

- Continued Implementation of the Public Education/Public Involvement Plans.

II. Introduction

This report is submitted to the Oregon Department of Environmental Quality (DEQ) pursuant to Amended Stipulation and Final Order (ASFO) No. WQ-NWR-91-75 issued to the City of Portland by DEQ on August 11, 1994. As stipulated in the ASFO, this report summarizes the City's efforts to eliminate unauthorized Combined Sewer Overflow (CSO) to the Columbia Slough and the Willamette River during the past fiscal year and identifies the work planned under the CSO Program for the current fiscal year.

The ASFO requires that the report be submitted to DEQ by September 1 of each year that the ASFO remains in effect.

III. Background

At the time the original Combined Sewer Overflow SFO was issued in 1991, approximately 60% of Portland's population was being served by a combined sewer system that collected both municipal wastewater (residential, commercial, and industrial sewage) and municipal stormwater (roof runoff, street and paved surface runoff, urban stream runoff). Currently, when there is a storm event in the City, runoff typically exceeds the carrying capacity of the combined sewer system causing overflows to both the Willamette River and the Columbia Slough through up to 54 individual outfalls.

These overflows are in violation of Federal clean water regulations and have been deemed a significant source of water pollution in both the Columbia Slough and the Willamette River. The City's combined sewer overflow outfalls discharge on average approximately 6 billion gallons of CSO annually. Approximately 20% of the content of the annual overflow is untreated municipal wastewater.

The current ASFO is essentially a 20-year compliance schedule to reduce overflow from the City's combined sewer system. It includes the following major milestones:

- By December 1, 2000, the City must eliminate all CSO discharges to the Columbia Slough that violate provisions of the ASFO.
- By December 1, 2001, the City must eliminate all CSO discharges that violate provisions of the ASFO at 20 of the CSO outfalls (including the Columbia Slough outfalls) consistent with the Facilities Plan approved by the Environmental Quality Commission (EQC).

- By December 1, 2006, the City must eliminate all CSO discharges that violate provisions of the ASFO at 16 of the remaining CSO outfall, consistent with the Facilities Plan approved by the EQC.
- By December 1, 2011, the City must eliminate all remaining CSO discharges that violate provisions of the ASFO , consistent with the Facilities Plan approved by the EQC.

Also included in the ASFO are a number of intermediate milestones, including the submittal of annual progress reports to DEQ by September 1 of each year that the ASFO is in effect to report on the efforts made to eliminate discharges that violate the provisions of the ASFO. The reports are to summarize the work performed during the past fiscal year and identify the work planned for the current fiscal year.

An additional SFO (No. WQMW-NWR-92-140) was entered into by the City of Portland and DEQ on July 21, 1992, that relates specifically to dry weather discharges from the City's collection system. This included any discharge of untreated sewage that is not specifically induced by rainfall. This order included a compliance schedule for elimination of dry weather discharges by March 31, 1995, along with several intermediate milestones.

IV. Past Fiscal Year Activities

This section summarizes the CSO abatement efforts for the period beginning July 1, 1994, and ending June 30, 1995. The section is divided into the following subsections:

ASFO Milestones Achieved
 Program Planning Accomplished
 Control Projects Planned, Designed and/or Constructed
 CSO Operation and Maintenance Activities
 Public Education and Involvement Activities

A. ASFO Milestones Achieved

Two additional milestones were scheduled and accomplished during the fiscal year. (This means that all 33 listed SFO/ASFO milestones have been met on time since the signing of the initial SFO.) The two milestones met during the past fiscal year are:

- Complete Construction and Implementation of the Selected Control Strategy for Eliminating Dry Weather Overflow: Milestone was met on March 30, 1995. (This completes the City's requirements under SFO No. WQMW-NWR-92-140.)

- Submit Final "Approvable" Facilities Plans: Milestone was met on December 20, 1994. (The plan was approved by the EQC on April 14, 1995.)

B. Program Planning Accomplished

Program planning continues to be an important aspect of the work being performed under the CSO Program. Planning is important to insure that the technical requirements of the ASFO are met within the schedule and budget constraints of the CSO Program. Important planning activities accomplished during the fiscal year were as follows:

- Wet Weather Permitting Meetings with DEQ for the Columbia Slough Wet Weather Treatment Facility (CBWWTF) and the Untreated Columbia Slough Discharges.
- Draft Facilities Plan for the Columbia Boulevard Wastewater Treatment Plant.
- Sewer System Optimization Workshops for the Combined Sewer Collection System.
- Formation and Staffing of a Citizens Task Force for Siting the Willamette River Wet Weather Treatment Facility (WRWWTF).
- Meetings and Deliberations by the WRWWTF Citizens Task Force Related to Siting and Appropriate Facility(ies) for Treatment of the Willamette river CSOs.

C. CSO Control Projects Planned, Designed and/or Constructed

Twenty three capital projects for improvements that will provide for reduction of the volume and frequency of CSOs were either in the planning, design and/or constructed stage during the past fiscal year. They are as follows:

- **Roof Drain Disconnections:** Evaluated results of the pilot project and developed policies and procedures for the first phase of the project. Received City Council approval of the policies and procedures and began disconnect program on June 1, 1995. Completed 1,400 site surveys and trained 16 Envirocorps members in disconnection techniques. Set up a data base for all program records and reports.
- **SLRT Calibration:** Continued to perform flow calibration of the sewer level remote telemetry (SLRT) system at 57 locations in the combined sewer system. Completed calibration on 20 stations during this year.

- **NW 29th & 31st Diversion:** Completed final design and began construction of this project to eliminate dry weather overflows.
- **Sewer DMD Modification-PH2:** Completed construction of modifications to 9 existing sewer diversion manholes to eliminate dry weather overflows.
- **St. Johns Basin Sewer Separation:** Completed construction of the basin-wide sewer separation of St. Johns 'B' basin which will control discharges from four outfalls near Cathedral Park. Planning for Phase 2 which will include downspout disconnection and side sewer connections was started. Completed final design of basin-wide sewer separation of St. Johns 'A' basin and began construction.
- **Sump Construction and Testing:** Provided construction and field testing of 36 drainage sumps in order to provide a clearer delineation of the "sumpable" area.
- **Drainage Sumps:** Over 365 drainage sumps were constructed to provide inflow reduction in the following seven CSO drainage basins:
 - Fiske Basin
 - 13th Avenue Basin
 - Sullivan Basin
 - Stark Basin
 - Insley Basin
 - Taggart Basin
 - Sellwood Basin
- **Oregonian Basin Separation:** Planning studies continued.
- **Oswego Basin Separation:** Planning studies continued.
- **Fiske Basin Separation:** Predesign for separation was completed to the 95% level. Test sump data being gathered and analyzed in conjunction with the Fiske Sump Project. A site for the water quality treatment facility has been identified and negotiations have been started to secure the site.
- **Ramsey Lake Constructed Wetland:** Completed final design and advertised for bids for this facility to treat stormwater from the St. Johns Basin and the Harborgate areas.
- **Ramsey Lake Trunk Sewer:** Final design was completed to the 90% level for the trunk sewer to convey stormwater from the planned sewer separation projects to the Ramsey Lake Constructed Wetland site for treatment.
- **Sellwood Basin Separation:** Final design has been completed for two sump construction projects and have been advertised for bids. Construction is expected to begin early in the next fiscal year.

- **Cathedral Park Water Quality Facility:** Planning and design were performed during the reporting period. Construction is scheduled to begin early next fiscal year.
- **Tanner Creek Basin:** Selected consultants and completed preliminary design for Phases 1 & 4 of this stream diversion project. Began final design for Phase 1 & 4.
- **Columbia Slough Consolidation Conduit:** Conducted a conceptual and preliminary design study for this storage and conveyance project. Identified and evaluated alternative pipeline alignments, performed geotechnical investigations including borings, performed Level One environmental and cultural resources investigations. Started an extensive Public Involvement process.
- **Columbia Slough Control Projects:** The Columbia Slough Control Projects include the Columbia Slough Consolidation Conduit, the CBWWTF Influent Pump Station, the CBWWTF, and the CBWWTF Outfall. A value engineering study was performed during the reporting period on this system of projects.

D. CSO Operation and Maintenance Activities

Continued implementation of operation and maintenance practices that reduced the impact of CSOs on the receiving streams. Although the following represents the City-wide effort, the majority of this work was performed within the CSO area:

- Sewer Cleaning 197 miles
- Catch Basin/Inlet Cleaning 28,939 units cleaned
- Drainage Sump Cleaning: 83 units cleaned
- Street Sweeping: 30,550 curb miles

E. Public Education and Public Involvement Activities

A large number of activities were performed during the year to inform, educate, and involve the citizens of Portland in the CSO Program. The following is a summary of those activities:

- **Public Involvement Strategy:** A public involvement strategy and implementation plan was developed and approved to guide information and involvement efforts of the CSO Program. The strategy defined the purpose, community values to be

addressed, core public involvement goals as well as CSO program public involvement goals, program messages, public involvement milestones and evaluation measures. It also set out a 1994-95 work plan for first year implementation of the strategy.

- **Public Involvement Plans:** Public involvement plans were developed at the outset of work for each CSO project that got underway during the year, and were implemented.
- **CSO Public Involvement Team:** A joint, five-person team of public involvement consultants and Bureau public involvement staff was established to implement the public involvement strategy and deliver public involvement services to the CSO program and its projects.
- **Speakers Bureau:** Staff of the CSO Program and other BES staff made an average of eight presentations per month during the year to a variety of local groups, representing neighborhood, business, environmental and student interests. Presentations included emphasis on the CSO Program and its relationship to the Bureau's Clean River mission, and also on individual CSO projects that were moving into the design and construction stage.
- **Public Participation:** Open houses and workshops were employed to answer questions and concerns of citizens about CSO projects, and to gain their views and preferences among options to resolve issues. The Willamette River Wet Weather Treatment Facility (WRWWTF) siting process featured open houses and workshops in each of the proposed site areas.

The Tanner Creek Diversion project's design phase included three workshops with residents and businesses of northwest Portland, the project's impact area. A round of three workshops was also held in the design phase of the Columbia Slough Consolidation Conduit project to gather initial opinions of stakeholders along North Columbia Boulevard in north Portland who will be impacted by choice of conduit alignment and by construction.

The majority of these open houses and workshops were co-sponsored by neighborhood associations and/or business districts in the vicinity of the project area. Mailings to nearly 10,000 neighborhood residents and businesses in the workshop areas were distributed to inform them of the public input opportunities.

- **Citizens Task Force:** Public involvement was also brought to bear on the WRWWTF siting process with the formation of a 15-person citizen's task force, charged by the Portland City Council to recommend by early October 1995 a location for the new facility. The task force was asked to examine five possible locations for the primary treatment capacity, and to identify community benefits that might arise from the plant

development. The task force was also asked to consider the value of siting the capacity at more than one site to extend community benefits.

- **Stakeholder Surveys:** To help develop effective public involvement plans and to gain an early understanding of issues, stakeholder surveys were conducted with community leaders in the impact areas of key CSO projects in advance of project implementation. This was true of the WRWWTF siting and the Columbia Slough Consolidation Conduit design projects.
- **Community Based Opportunities:** General criteria were finalized and approved by Commissioner Mike Lindberg to guide identification of community based benefits, or opportunities, as CSO projects were designed and constructed. These opportunities are intended to bring value added to the community, wherever possible, beyond the improvement of water quality to rivers and streams.
- **Ramsey Lake Constructed Wetland:** Citizens representing neighborhood, business and environmental perspectives participated as members of the CSO management team, alongside CSO program staff, on the Ramsey Lake project throughout the design stage. Through their voices and from feedback gathered at several neighborhood open houses held in the vicinity of this north Portland project, the design was modified to meet citizen concerns about plantings, access and educational opportunities that will arise from the project.
- **Public Information Materials:** Several regular and a variety of ad hoc public information materials were developed and maintained to inform Portland ratepayers and special interest organizations about progress on the CSO program and its projects. Publications include ***CSO Update***, a quarterly report to some 1,800 most interested stakeholders focusing on activities related to CSO projects.

CSO Progress Report, is a quarterly report on program progress, including MBE/WBE/ESB and public involvement components as well as chief public policy and management thrusts. This publication, developed as a reporting tool for the City Council, also goes to a broad range of community leaders, plus local, state and federal officials and agency managers.

In addition, a monthly newsletter is being sent, starting in May, to some 4,500 residents and businesses potentially affected by the siting of the WRWWTF.

Fact sheets were developed and distributed on the key CSO projects in the design stage during the year: WRWWTF, Tanner Creek diversion, Columbia Slough Consolidation Conduit and Ramsey Lake constructed wetland.

CSO public involvement is also supporting with material development and neighborhood coordination the CSO program's Downspout Disconnection project, an effort to motivate targeted Portland residents to disconnect their down spouts from

the City's combined sewer system, thus reducing volumes of stormwater in that system during a rainy period.

A general CSO program brochure was also developed that describes the purpose and benefits of the program in lay terms, and is used as backup material for distribution at Speakers Bureau presentations. It is also used as handouts at various community events or conferences where the CSO Program is maintaining a presence.

Design began on a program of computer kiosks that will bring information and interaction on the CSO program to the streets of Portland. The kiosks will feature continuous education on the program and its projects and be periodically updated with construction alerts.

At these touch-screen kiosks, users will also have the opportunity to input questions and comment about the program, and to sign up to receive responses and future information mailings. Some of the kiosks will be located semi-permanently at several high-traffic locations; others will be mobile and their locations will change regularly to reach a wider audience.

- **Clean River Works:** The Bureau has stepped up implementation of its Clean Rivers mission to improve the water quality of Portland's rivers and streams. Most visible form to date is the airing of public service spots on television reminding residents of the Portland region of the importance of cleaner rivers. The CSO program is associating its presentations and materials with this effort to reinforce the messages of the CSO public involvement strategy.
- **Construction Alerts:** CSO public involvement has instituted a program of information and education materials to residents and businesses in the path of Cornerstone Program construction, including installation of sumps at street intersections and laying of new pipe to separate sanitary from stormwater flows in certain sections of the combined sewer system (primarily North Portland during this period). The effort is to provide notice well in advance of disruption, and establish a hot line relationship between the CSO public involvement team and sewer customers.
- **River Alert:** This program continues to inform citizens of CSO occurrences into the Willamette River. Signing was improved during the year and interpretive program areas maintained along the river.
- **Ramsey Lake Constructed Wetland:** A plan to develop the educational opportunities of this new facility, working with schools and environmental organizations, will be implemented. This will include guided tours and interpretive signage.

V. Planned Efforts for Current Fiscal Year

The current year's efforts covers the period beginning July 1, 1995, and ending June 30, 1996. The work planned for the current year will focus on continued implementation of the Cornerstone Projects throughout the CSO area, the implementation of the control facilities in the Columbia Slough Watershed, and refined planning in the Willamette River Basin. The current years work is divided into the same five subsections used for the previous year's efforts.

A. ASFO Milestones to be Achieved

There are no major ASFO Milestones during the current fiscal year.

B. Program Planning to be Accomplished

Program-level planning will continue in several areas of the CSO Program during the current fiscal year. Important planning activities to be accomplished include:

- Acquisition of an NPDES Permit for the CBWWTF and the Untreated Columbia Slough Discharges.
- Final Approved Facilities Plan for the CBWTP.
- Completion of a Sewer System Optimization Plan for the Columbia Slough Collection System.
- Completion of a Sewer System Optimization Plan for the Willamette River Collection Systems.
- Selection of a Site for the WRWWTF.

C. CSO Control Projects to be Planned, Designed and/or Constructed

The CSO control projects to be planned, designed and/or constructed during the current fiscal

year includes the continuation of the inflow reduction projects, including drainage sump construction, roof drain disconnections, stream diversion projects, and sewer separations. Specific work to be accomplished includes:

- Design of Tanner Creek Stream Diversion Projects Phase 1 & 4
- Construction of a Portion of Tanner Creek Phase 1 Project
- Construction of the Ramsey Lake Constructed Wetlands Project
- Construction of a Portion of the Ramsey Lake Trunk Sewer
- Construction of the St Johns A and B Sewer Separation Projects
- Construction on the Fiske B Sewer Separation Project
- Preliminary and Final Design of the Oregonian Basin Projects
- Preliminary and Final Design of the Oswego Basin Projects
- Preliminary and/or Final Design of the Columbia Slough Control Projects, including the Columbia Slough Consolidation Conduit, the CBWWTF Influent Pump Station, the CBWWTP, and the CBWWTP Outfall.

D. CSO Operation and Maintenance Activities Planned

Continue the implementation of operation and maintenance practices that reduce the impact of CSOs on receiving streams. This City-wide effort will include the following:

- Sewer Cleaning: 292 miles
- Catch Basin/Inlet Cleaning: 6,750 catch basin/inlets
- Drainage Sump Cleaning: 200 sumps/sedimentation manholes
- Street Sweeping: 45,446 curb miles

E. Public Education and Public Involvement Activities Planned

The CSO Program public education and public involvement activities planned for the current year include:

- **Public Involvement Strategy:** Review and revision of the CSO public involvement strategy, with development of a 1995-96 work plan. Development of CSO public involvement targets for measuring the effectiveness of the program during this year.
- **Public Opinion Polls:** Conduct public opinion polls and focus groups to measure the awareness among Portland residents of the need and benefits of the CSO program and its projects, and to evaluate the effectiveness of the CSO public involvement program.
- **Expanded Public Outreach:** Expanded public outreach on CSO projects, especially to minority and additional special interest audiences. Outreach will also focus more closely on residents and businesses in project impact areas. Such efforts include a public opinion survey just conducted in the four areas surrounding the prospective sites for the WRRWTF. Some 34,000 surveys were mailed in an effort to assist the Citizens Siting Task Force with a better understanding of public opinion. About 1,700 returns were received (a 5% return rate), and a report made to the Task Force of findings during August, 1995.
- **Public participation:** Integration of additional citizen participation in project management teams, including the Columbia Slough Consolidation Conduit project team is planned. A working group of citizens will be formed to monitor the future development of the Tanner Creek diversion project from the design stage into and through construction phases.
- **Internet connection:** The CSO public involvement program will participate in the planned setup of an Internet channel by BES Communications, expected to be in place in the fall of 1995. CSO public involvement staff will promote use of the connection in public information materials and Speakers Bureau presentations.
- **Public information materials:** Wide distribution of the CSO program general video is planned to schools and community organizations in the fall and winter, making copies available in the libraries of these institutions and to instructors. Distribution of the video will also be handled by commercial dealers, such as Blockbuster and Hollywood Video, through their Portland video outlets. The opening sequences and packaging of the video have been revised to attract broader use.

The first-year use plan for the computerized kiosk program will be implemented with the anticipated delivery of the kiosks in late 1995.

The established publications for the program and its projects will be maintained, and use of ad hoc publications to inform about project information will continue.

- **Speakers Bureau:** This effective tool for dissemination of information and answering citizen questions will continue in 1995-96, with a goal of increasing the number (about 100 in 1994-95) and diversity of presentations.

- **Public events:** The CSO public involvement program will participate in and assist in the development of public events planned to expand public understanding and appreciation of cleaner waterways in Portland. These include a Columbia Slough Celebration in north Portland in the spring of 1995, and a Clean River Festival on the Portland downtown waterfront next summer.
- **River Alert:** The Bureau's communications division plans to begin a program this fall whereby *The Oregonian's* weather page will carry information on river alerts for CSO occurrences in the Willamette River. New signage is also planned to be installed along the river and Slough to increase public understanding of the impact of the CSO occurrences.

VI. Conclusions

- The City is making good progress and is on schedule towards the eventual reduction of CSOs as evident by the above list of accomplishments and the work planned for the current year.
- Last year the City met both milestones identified in the SFO/ASFO and is on track for meeting the next scheduled milestones.
- The City conducted substantial operation and maintenance of the CSO collection system during the past fiscal year to reduce the environmental impact of current CSO discharges and will continue with this effort during the current fiscal year.
- The public outreach program will continue to expand and improve the public's understanding of the City's combined sewers and their impact on water quality.
- The public education and public involvement strategy and plan developed during the past fiscal year will continue to be implemented for the benefit of the general public as well as special focus group during the current year.